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THE JOURNAL OF SCHOOL HEALTH

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Vol. VIII JANUARY, 1938 No. 1

THE HEALTH PROGRAM IN THE SCHOOLS OF HAWAII

THEODORE R. RHEA, B. A., C. P. H.

Director of Health Education and Work with Handicapped Children, Department of Public Instruction, Territory of Hawaii

The general school organization in Hawaii differs from most school systems on the mainland United States in that all public schools in the Territory are definitely administered and controlled by one division of the government — the Department of Public Instruction. Seven school commissioners are appointed by the Governor of the Territory for terms varying from two to four years. Two commissioners are appointed from the Island of Hawaii, one from Maui, one from Kauai, two from the City and County of Honolulu (Oahu), and one appointed at large, who is the chairman. The Board meets periodically in Honolulu and is responsible for deciding general educational policies and problems of administration. The Superintendent of Public Instruction is an ex-officio member of the Board, as well as chief administrator of the Department. He is also a member of the Governor's Cabinet.

There are three divisions within the School Department that are primarily responsible for the health of school children.

Division of Dental Hygiene:

The School Department maintains a Division of Dental Hygiene, with one supervisor and a staff of twenty-five dental hygienists. The dental hygienists do educational work, and give prophylactic treatment to all children in the first four grades. Dental examinations are also given every elementary school child in the Territory. The hygienists have played an extremely important part in educating children to go to their dentists at least once a year for examination and dental repair.

There is no free dental service in the Territory, with the exception of the dental clinic at Palama Settlement, which is supported by the Strong Foundation, and serves children whose parents are unable to afford the services of a private dentist. It is difficult to estimate the far-reaching effects of the work done by the Strong Foundation during its fifteen years of existence in Honolulu. The health of thousands of children has been safeguarded through this splendid service. The dental profession as a whole has given unusual cooperation to the school program of dental hygiene.

The dental hygiene program of the Territory is outstanding in its dental corrections. The enrollment in Honolulu's elementary schools for the school year 1936-37 was 20,455; eighty-one per cent of which had complete dental correction (39.2% private dentists and 41.8% Palama dentists). Ten per cent were still having dental work done but had not completed this correction

(8% private dentists and 2% Palama dentists), leaving only nine per cent who did not see a dentist during that school year. Because of the lack of free service in rural districts, self-supporting clinics have been established on a small fee basis.

The elementary school population for the Territory as a whole for the same school year was 62,680 (including Honolulu). Of this number, 44.6%, or 27,980 children, had complete dental corrections and 5,561, or about 8.9%, were having dental work done but were not completed.

Division of Vocational Education:

The Department also maintains a Vocational Division, which is responsible for the following health education and services — homemaking, cafeteria service and vocational rehabilitation.

The school cafeteria has been a most potent factor in correcting the diet of the oriental people in Hawaii. Nearly 45,000 five-cent lunches are served to school children every day; each five-cent dish containing at least one-fourth of a pound of cooked or raw vegetables, along with a serving of meat and usually a sandwich of bread and butter. Several thousands malnourished children receive daily a penny breakfast or mid-morning lunch composed of fruit, milk or soup.

The homemaking classes under this division attempt to teach older pupils the basic principles of home management, sanitation, beautification, child hygiene and home nursing.

The vocational rehabilitation work is financed by Federal funds, which are matched by territorial money. With these funds, a program is being developed for handicapped individuals who need special vocational instruction. Forty-two persons are now receiving training in dressmaking, shoe repairing, auto painting, show-card lettering, barbering, etc. The type of training is carefully selected for each individual, taking into consideration the type of handicap and the educational background. Cases now in training include orthopedics, healed tubercular cases, deaf mutes, blind and others who need this specialized vocational training. The division cooperates with governmental and private agencies, physicians, educators, businessmen and employers in general.

Division of Health Education and Work With Handicapped Children:

The Division of Health Education and Work with Physically Handicapped Children is concerned primarily with the general program of health education for all children in all grades. There is a very definite attempt to teach health by giving children an opportunity to live healthfully during the school day. Children are also encouraged to practice health habits learned in school in their home environment. A very definite attempt is made to correlate the health teaching in school with the health problems of the particular community or district in which the child lives.

Health classes have been organized in many schools throughout the Territory for children who are physically under-par. Candidates for these

classes are selected on the basis of a medical examination which, in most instances, includes the tuberculin test and the X-ray, if such is indicated.

The idea of the special health class is to reorganize the school day, as well as the curriculum, to meet the individual needs of the children who have special health problems. Tuberculosis contacts, asthmatics, cardiacs, and extreme cases of malnutrition are those who are generally elected for these classes.

A recent survey showed that there were 2,851 children in the Territory enrolled in these health classes — 1,679 in Honolulu and 1,172 in rural districts.

Several phases of the health class program are unusual and rather significant. In the first place, no additional teachers are employed to maintain this program. In the large schools, there may be as high as ten teachers on each grade level. When this is the case, each grade may have a health class. In other words, a medical examination will be given in each grade and those children who need special help will be selected—enough to fill one classroom. After the reorganization of classes, there will then be nine regular classes and one health class on each grade level. In smaller schools, there may be one health class for every two or three grades, and in some of the small rural schools, health class children will remain with their regular teacher for all academic work but will go to one teacher for their special rest and food. Every precaution has been taken not to allow this activity to degenerate into merely a feeding program. Education for the children and their parents is the prime objective.

Second, little or no additional equipment has been necessary. The regular school cafeteria dishes have been used for special breakfasts and mid-morning lunches, and the sunny, temperate climate of Hawaii allows children to rest on the school veranda or out on the school grounds in the sun or under the trees. The children bring Japanese mats from home, upon which they lie to avoid dampness and chilling.

Third, the program is very largely self-supporting. A recent survey on Oahu indicated that the children were paying 86% of the total cost of food and milk. The additional 14% was supplied by the school or community organizations.

Fourth, classes in child hygiene and nutrition have been conducted for the parents of children in the health classes. Mothers and in some instances, older sisters and even fathers, have been enrolled in these classes.

A very careful program has been inaugurated for testing vision. Every child in every grade has his vision tested each year. Four sight-saving classes have been established in the Territory — three in the City of Honolulu and one on the Island of Maui.

Hearing tests with the 4-A audiometer, followed by the 2-A audiometer, have been given to all children on the Islands of Hawaii and Kauai, as well as in the City of Honolulu and parts of Rural Oahu. During the past school year, 19,225 rural school children were given careful hearing tests. If a

child is found to be defective in hearing, he is referred for medical attention and given special seating in his classroom. Special classes in lip reading have been established in Honolulu for children who are definitely progressing towards deafness.

Special classes have also been established in Honolulu for children with defective speech. A class was established in the city during the summer of 1937 for children from the outside islands who were post-operative cleft palate cases, where they were given special instruction and drill in speech. This program was a joint project of the Department of Public Instruction and the Territorial Board of Health.

Territorial Board of Health:

The Territorial Board of Health, like the Department of Public Instruction, is a territorial-wide health agency. It also has centralized authority in a board and a commissioner of public health, who is the chief executive and like the superintendent of public instruction, a member of the Governor's Cabinet.

The Board of Health is responsible for the disease prevention, immunization, sanitation and school nursing programs in the public schools of the Territory. The success which has been attained in the school health program may be largely credited to the close cooperation between these two territorial-wide agencies. The School and the Health Departments have established common policies, and work very closely with each other in developing a mutual program.

School Nursing:

Hawaii has adopted a program of generalized public health nursing service which has proven to be most successful. Under the present program, the school nurse is also the district nurse and serves the community at large. In the City of Honolulu, school nursing is supplied by the joint nursing service of the Territorial Board of Health and Palama Settlement. Palama Settlement supplies seventeen nurses and the Board of Health eight. In rural districts, every school has the benefit of a school nursing service. The Board of Health provides thirty-eight rural nurses who give about the same type of school service as is given in Honolulu, although the frequency of their school visits depends to a very large extent upon the size of the district and distances between schools.

The school authorities recognize the public health nurse as a health specialist and as a health teacher. Although she is not actually employed by the school system, she is given in practically all instances thorough cooperation by school principals and teachers. She is the school's health councillor, and makes a very important contact between the school and the home. In general, her activities include:

1. Assistance in the health supervision of pupils.
2. Participation in promotion and maintenance of the sanitation of the school plant.

3. Participation in the development of an adequate health education program.
4. Promotion of school health committees or councils and of their activities.
5. Enlistment of the interest and cooperation of parents through conferences with them in school and in home visits.
6. Participation in the work of parent-teacher associations and similar groups.
7. Co-ordination of her work with that of other school health personnel.
8. Development of relationships between the home and the school and all health resources of the community.

There is a growing tendency for the nurse to do some actual classroom teaching in certain subjects where her training and experience make her extremely valuable as an instructor. Classes have been organized in some districts for girls in the fifth and sixth grades, where the nurses discussed the problem of personal hygiene relative to menstruation, a subject which has been neglected by many oriental parents. The subject has been approached entirely on the basis of personal hygiene, but there has been a definite indication that the girls of this age wish to go further with this instruction. Questions relative to sex hygiene and reproduction have been raised and frankly discussed by the nurse.

Tuberculosis Prevention:

The director of the Tuberculosis Bureau of the Board of Health has, for several years, cooperated with the schools of the Territory in promoting an early diagnosis program of tuberculin testing and X-raying. This work has extended to all islands and into practically every district. The program in outlying communities is administred by government physicians and physicians in charge of county sanatoria.

Last year, in the City of Honolulu, there were 5,428 school children tuberculin tested and if the test is positive, X-rayed.

Other Board of Health Activities:

The Bureau of Communicable Diseases works in close cooperation with the schools in the control of communicable diseases.

The Bureau of Sanitation inspects school plants and reports to proper authorities all conditions not meeting the requirements of the sanitary code.

The Bureau of Maternal and Infant Hygiene provides medical examinations in rural districts and organizes immunization programs throughout the Territory. Crippled children's work, promoted through Federal funds, is also tied up with this department.

Other Cooperating Agencies:

The Bureau of Sight Conservation and Work with the Blind, now attached to the government bureau of public welfare, has also been of great assistance in the program of sight conservation in the public schools. The director of this bureau and staff have greatly aided the entire school program of sight conservation by bringing about closer cooperation between all agencies interested in this work, as well as organizing university training courses for

teachers, securing glasses for indigent children and assisting in the remodeling of school buildings to bring about better lighting facilities.

Leahi Home, the tuberculosis sanatorium for the City and County of Honolulu, has made a very definite contribution to the health class program mentioned above. Five thousand dollars a year have been turned over to the health class program in Honolulu for medical and nursing service.

The Hawaii Tuberculosis Association, which is affiliated with the national association, has been of great assistance to the school health program. The special health classes have been sponsored in many districts by the local tuberculosis committees, which have provided professional and financial assistance. In the City of Honolulu, the Tuberculosis Association has assisted the program of tuberculin testing and X-raying in the high schools, and has also furnished the tuberculin and X-rays necessary for the health class program. The Association has also provided a fund of approximately $1,000.00, which can be drawn upon for milk and food for under-privileged children who are enrolled in the health classes.

The Department of Public Instruction is greatly indebted to the Hawaii Tuberculosis Association for their assistance to the school health education program. During the past year and a half, the Association has provided a special worker in the Division of Health Education, who has directed the health education curriculum service. During last year, over thirty-six thousand pamphlets and mimeographed health units were distributed to the schools of the Territory. This special worker has also prepared courses of study and special health units which are used by teachers and nurses in the school and community program of health education.

Palama Settlement has provided dental, medical, and recreational facilities for under-privileged children in Honolulu and Rural Oahu.

The Y. M. C. A., Y. W. C. A., and the Recreation Commission are cooperating in providing recreational facilities for school children. A Honolulu learn-to-swim campaign is promoted annually with an enrollment, last year, of 1,119 fifth-grade school children.

Plantations are providing medical and nursing service for the school children of their districts, and are supplying much needed treatment as well as preventive service.

The schools have enjoyed a fine degree of cooperation with the medical and dental societies. Many physicians and dentists have given generously of their own time in promoting and advising health activities in the public schools of the Territory.

* * * * *

Health Instruction.—In Gary, Indiana, a high school teacher has been assigned to the Crown Point sanatorium by the schools of Ross Township, in which the hospital is located, for the instruction of patients of school age. Miss Hazel Webster has organized the curriculum material to fit the rest hours and other necessary regimen in the hospitalization of the tuberculous. —Bulletin, National Tuberculosis Association, December, 1937, page 188.

THE BACKWARD CHILD AND THE SCHOOL HEALTH SERVICE

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In this article I want to speak of the problems created by the backward child from the point of view of the school physician, school nurse, or other health officers concerned with the child development. The diagnosis, care, and protection of the backward child calls at every stage for the closest cooperation between the teacher or school administrator and the school health officers.

Diagnosis—The first task of those who are faced with a case of apparent subnormality is to discover, by the use of suitable tests, if the child is dull, backward, retarded, or any combination of these three. Here a word may be said about tests. No test of intelligence or attainment carries with it a guarantee of perfect reliability, but there are a great many tests with a high degree of reliability published cheaply today. Every school should have as part of its equipment a case of such well-tried tests as the Stanford Individual Test, the Otis Group Tests, the Columbia Achievement Tests, and the Clapp-Young Diagnostic Tests, from which the individual teacher could select those suited to the age and condition of his pupil. As yet, however, surprisingly few schools are keeping abreast of modern progress to this degree.

The school health officer can be of great assistance here by introducing to the school or to the teacher suitable tests, and by advising the teacher in the selection of test material.

In order that the children in a school who may be included under the wide term *subnormal* may be classified correctly and so suitably trained, the teacher should be clear that there are three types of subnormality frequently confused but actually different both in their causes and results.

There is first the child with innate intellectual deficiency. If this deficiency is great, he is a *mental deficient*. If it is slight, he is called, in a technical sense, a *dull* child. Intelligence tests reveal this child as having a mental age below that of children of his own chronological age. His Mental Ratio is defined as $\frac{\text{Mental Age} \times 100}{\text{Chronological Age}}$ and if this ratio is between 70 and 85 he is defined as a *dull* child.

There is secondly the child whose proficiency in school work, as shown by purely educational tests, is below that of a child of his own chronological age. His Educational Ratio is defined as $\frac{\text{Educational Age} \times 100}{\text{Chronological Age}}$ and if this is between 70 and 85 he is termed a *backward* child.

There is thirdly the child whose school work, as revealed by educational tests, is below his intellectual ability as revealed by intelligence tests. His Accomplishment Ratio is defined as $\frac{\text{Educational Age} \times 100}{\text{Mental Age}}$ and if this is between 70 and 85 he is termed a *retarded* child.

The Causes of Backwardness,—Having defined the term *backwardness* and indicated how the teacher may distinguish the backward child from other subnormal types, the next step is to discover the causes of backwardness in a particular case.

Recent research in England and America has revealed the fact that the causes of backwardness are unexpectedly numerous and varied. A wide survey shows that there are about sixty possible causes, and of these, on the average, each backward child suffers from at least three adverse factors. One of these three factors is almost certain to be physical, either in its origin or in its manifestations. The other two are likely to be mental and emotional.

Before any further step can be taken in the care of the backward child a preliminary examination is called for that must be carried out cooperatively by the school and the health authorities.

Preliminary examination,—The case-record of the backward child will first contain the results of tests and inquiries carried out by the school, acting, if necessary, on the advice of the health officer. This will give information under the following headings:

Family history,—The school should collect certain facts concerning the father, mother, sisters, brothers, grandparents, and cousins of the child. These facts are age, economic efficiency, health (especially recording hereditary and nervous ailments), mental status, race, consanguinity, and illegitimacy.

Home history,—The important facts here are, family income, housing conditions, home supervision and discipline, emotional relationship between the cihld and each parent, clothing, feeding, and cleanliness.

Physical history,—In the collection of the relevant facts under this heading the school nurse can give most valuable advice and assistance. The important facts are; conditions of pregnancy and birth; age of walking, talking, cleanliness, teething, and puberty; and accidents and illnesses with special note of loss of school attendance or after affects in each case.

Under this heading, too, should come all records of previous medical examinations.

Mental history,—Under this heading should be recorded the results of mental and educational tests with the computation of mental, educational and accomplishment ratios; special disabilities or abilities noted in school work, such as manual dexterity, memory, reasoning, association, and concentration; subjects preferred and disliked; study habits; and records of attainment in the various school subjects.

Emotional history,—This record can best be compiled jointly by school and health authorities. It should record general emotional type; development of specific emotions such as curiosity, disgust, anger, fear, pugnacity, submissiveness, sex, and the like; social qualities such as cooperativeness, leadership and self-confidence; and particularly neurotic symptoms such as sleepwalking, nightmares, hysteria, and stammering.

Medical examination,—After the case-history has been compiled, at the next stage a rather special type of medical examination is called for, in which particular attention is given to those physical factors and disabilities that are the most frequent cause of backwardness. These fall into four groups:

1. Defects of development. This shows itself in retardation as measured by height, weight, ossification, dentition, and pubescence.
2. Defects of general health. This shows itself in regard to nutrition, posture, nasal and palatal formation, catarrh, tonsils and adenoids, defective teeth, epilepsy, chorea, glandular defects, zymotic illnesses, and heart and lung defects.
3. Sensory defects. This calls for a very careful testing of vision, hearing, and speech.
4. Motor defects. These are shown in left-handedness and mirror-writing, and as a result of tests of mascular ability and manual dexterity.

Psychological examination,—The medical examination should be followed by examination by a trained psychologist, and the record of these psychological results complete the case-record, which is now ready for examination and report.

Care and treatment,—The person who makes the final diagnosis and recommendations for treatment may vary according to the particular administrational set-up. A doctor, with the psychological and educational records already described before him, can do so; or a psychologist with the medical and educational records; or a school principal with the medical and psychological records; or perhaps, better still, the recommendations can be the result of consultation between all three agencies that have contributed to the work.

The treatment recommended will consist of three measures of rehabilitation:

First, there will be certain medical treatment which will call for the cooperation of the health service, the school authorities, and the home.

Secondly, there will be certain educational treatment that may require attendance at a special school, or in a special class, or the provision of individual schemes of study in certain subjects, or the use of special teaching methods.

Thirdly, social treatment may be necessary. An increasing number of civic authorities have some system of social service attached to their educational and health services. The active cooperation of these workers needs to be enlisted so as to secure for the backward child the assurance that treatment is consistently carried out at school and home, in work and in recreation.

Finally, all those agencies that have cooperated to examine, diagnose, and treat cases of backwardness, need to continue their cooperation during treatment, so that a careful record is compiled of the subsequent history and progress of the cases under their care. Such records will not only have an individual significance, but will serve to promote research and progress in the study and understanding of both the normal and the abnormal child.

From this very brief outline of the method of attack upon the problem of the backward child, it can be seen that the investigation, diagnosis, treatment, and after-care of every case necessitates the closest possible cooperation between parent, teacher, doctor, dentist, psychologist, and social worker.

* * * * *

School Health Program.— An extensive program of promoting better health among school children was started recently by the State Department of Public Health in southern Illinois. Records from the medical examination of the youngsters in eighteen rural schools indicate that much can be done in this respect. Two-thirds of these children had never been vaccinated against smallpox, about one-half had never been inoculated against diphtheria, more than one-fourth (28%) were suffering from easily recognizable nutritional disturbances, one-fourth had defects of the throat such as diseased tonsils and adenoids, and 7 per cent had uncorrected defective vision.

These findings are probably typical of many rural and small community school children of the State and suggest the urgency of more adequate health protective services. What may be expected later if physical defects in children are allowed to develop and go uncorrected is illustrated by the experience of the Navy recruiting office at Indianapolis.

Among 881 applicants for enlistment, young men who qualified as to age and should have been at the peak of physical fitness, 623 or 71 per cent were turned down because they could not pass the physical examination. Dental defects, flat feet, defective vision, and poor physical development predominated, in the order listed, as the causes of rejection. Malnutrition or at least undernourishment appeared to be an outstanding if not the most important fundamental cause of physical inferiority among these 623 applicants for enlistment in the Navy.

Lt. H. D. Templeton, who made the medical examinations, observed in connection with his report on the findings that:

"This survey suggests that periodic physical examinations of school children might have resulted in the correction of many nutritional and developmental defects."

As evidence that this observation had validity, Lt. Templeton pointed out that most of the applicants who had defective vision claimed that their vision had never before been tested, while some of those with satisfactory vision gave a history of having worn glasses during childhood.

While the physical requirements of Navy recruits may be rather high, vigorous health is no less valuable for a good citizen in private life than for a good "gob." Certainly the evidence is plain that better health may be had with better protective service.—Illinois Health Messenger, Dec. 15, 1937, page 149.

THE VISITING TEACHER

Committee on the Visiting Teacher
Buffalo Council of Social Agencies, Buffalo, N. Y.

The visiting teacher, sometimes called guidance worker or school counsellor, is a specially trained person added to a school staff to work individually with children who have difficulties which prevent them from getting the most out of their school experience.

In every school there are children who do not fit in with the group. They may be those who, though intelligent, fail in their work. Some may be so aggressive that they create problems among the other children; others are so timid that they do not make friends and are unable to take part in classroom activities. Some children have temper tantrums; some steal or actively rebel against the most sympathetic correction and sometimes end in children's courts or penal institutions. Such behavior and personality difficulties hinder their own progress and frequently that of their classmates as well.

Problem children are found in the homes of the rich as well as in the homes of the poor. Therefore, visiting teacher service should not be restricted to any particular neighborhood.

Through talks with the problem child, his parents and his teacher, the visiting teacher seeks to learn the causes of his particular difficulty; on the basis of this understanding she works out plans to help him. Interpretation of the school and home to each other is sufficient to remedy many situations; but some problems are more deep-seated and require many contacts with child and parents over a long period of time. The visiting teacher enlists not only the cooperation of parents and teachers but knowing community resources such as recreational facilities, child guidance clinics and social agencies, the special skills of these are brought to bear.

The intensive study and help which unadjusted children need requires more time than a principal or classroom teacher can, in justice to others, give to any one pupil. The visiting teacher, who teaches none of the subjects making up the school curriculum, has the requisite time and freedom from class room duties. Equipped in child guidance and mental hygiene, she is a specialist in the field of individual behavior problems, just as principals and teachers are specialists in their fields of work.

Since the visiting teacher uses the methods of social case work, training in a recognized school of social work or experience in a social agency giving the equivalent, is required. Some previous experience in educational work is also recommended.

Courses are available in such Schools of Social Work as Smith College at Northampton, New York School of Social Work, and Philadelphia School of Social Work, School of Social Work, University of Buffalo, and many others.

Visiting teaching, begun in 1906, has long passed the experimental stage, and is a nationally recognized school service provided by departments of

education in over half of the cities of the country with populations of more than 100,000, as well as in many smaller communities. In our New York State, the schools of New York, Rochester, Syracuse, and Utica have visiting teachers.

The experience of other cities has shown that the long-time cost of providing adequate visiting teacher service is negligible in comparison with the results obtained. Every failure prevented represents a financial and social gain. Every problem eliminated enables the teacher to give more attention to her class as a whole and increases the efficiency of her teaching.

In Buffalo, a demonstration of visiting teaching is being carried on under the supervision of the Superintendent of Schools, financed by the Joint Charities and Community Fund and the Junior League. Though limited in scope, this demonstration has shown that this work has the same value for Buffalo as for other cities. Early discovery and treatment of behavior difficulties often prevents development of more serious troubles in later life. The number of children now in our schools who in the future will fill our children's court, our penitentiary and our mental hospitals can be lessened; many who will be unequal to meeting fully the complexities of modern living can be aided.

* * * * *

Congress of Sport Physicians.—The first Congress of Sport Physicians was held in Bucharest. The first speaker was Kral, lecturer to the Universtiy of Prague, who made known the function of his professorial chair, the aim of which is to make students of medicine know the various problems which surround physical education. Professors Mihailescu and Alexiu expounded the importance of the medical control of physical education among university students and those youngsters who partake in so-called premilitary training. They showed a minutely elaborated plan for the institutional organization of the training of sport physicians. Lascar, colonel in the medical service, and Jonescu dealt with the teaching of sports needed by those suffering from bodily defects. They emphasized the importance of this from the point of view not only of the upkeep of their health, which is impaired by their deformities, but of the improvement that can be brought about by properly applied sports and exercises, under the control of competent sport physicians. Professor Dumitrescu told of his plan for a biotypologic institute along the lines of physical education. He also expounded the practical realization of this plan. Alexiu and Demetrescu illustrated with numerous examples the importance of the medical control of the gymnastic exercises of sport associations. Ulmeanu proposed the organization of physicians dealing with physical education into a society and suggested that the career of sport physicians be regulated according to certain norms. He said that of late years it has been the fashion to have children taught physical culture, mostly by teachers who are self taught and who may do harm by incompetent teaching. From regular correspondent, Bucharest. The Journal of the American Medical Association, October 16, 1937, page 1292.

COMMUNICABLE DISEASE PROBLEMS IN THE PUBLIC SCHOOLS

CYRUS MAXWELL, M.D.

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The communicable disease problem in the public schools is the problem of the whole community. More particularly it is the problem of the whole school personnel. Primarily it is an adult education problem. The school health service must not wait until the normal school graduates are better trained in health problems and health education, but must seek to educate the community and the present school personnel in recognizing and meeting the communicable disease problems as they arise.

The school physician should utilize every opportunity to talk at the Parent-Teacher meetings on communicable disease control.

The school health service should work closely with the local health department. Any infectious disease should be reported to the health department at once, and similarly the health department should report to the schools any infectious disease reported to the health department. This should be by phone at once in order that necessary measures may be taken to prevent further spread. A careful working agreement should be reached with the health department so that uniform approved steps may be taken in both public and private schools when communicable diseases arise.

When a suspected case of communicable disease is found in school, the principal should be notified at once and should send the child home at once and a follow-up call should be made by the nurse as soon as possible. If there is no school physician the parents should be asked to put the child to bed and call their own physician at once.

Throughout the incubation period, either the school physician or school nurse should every day examine every child in the room for signs or symptoms and exclude suspicious cases. With this system in Auburn, a city of 36,000 with 6,000 in our city schools, we have had but two cases of scarlet fever in five years that we could trace to a preceding case of scarlet fever in the school. This year we have started an additional procedure. Now we send home by each child in a room where a case of scarlet fever is found the following letter:

Dear Parent:

Scarlet fever has been found in ..... room in school. This disease is not as highly contagious as measles or chickenpox and rarely is there a second case in a schoolroom where there is a known case. The method of infection is usually through contact with a previous case, although milk may carry the infection. It often spreads through mild unrecognized cases from the discharges from the nose, mouth, suppurating glands, or ears.

The incubation period is from one to seven days, usually two to five days. The onset is usually sudden, with headache, fever, sore throat, and often vomiting. Glands (lymph nodes) of the neck are usually enlarged. Generally

within twenty-four hours the rash appears as fine, evenly diffused bright red dots. The rash is seen first on the neck and upper part of the chest, and lasts 24 hours to 10 days, when it fades and the skin peels in scales, flakes, or even large pieces. Some patients have a sore throat without a rash (the so-called "scarletina" sore throat).

We urge that you examine your child each morning before school, and if he or she shows any of the signs or symptoms listed above call your family physician and keep the patient in bed.

In school the close contacts with the case of scarlet fever are sent home at once, and every child in the room examined each morning for a week, and any suspicious colds or sore throats sent home.

Signed,

Health Officer.

Whenever any other communicable diseases are involved, similar letters signed by the health officer are sent to the homes. We have rarely sent out letters for diphtheria because it is so scarce in a well immunized community.

There is one highly commendable procedure which we have not followed, but we hope to adopt. Whenever a case of a communicable disease breaks out in one city I visited this spring, the school nurse teacher goes into that room and conducts a unit or class on that disease for the children in that room. The results have been very satisfactory, and the lesson very impressive.

A vigorous search should be made for a preceding case of diphtheria whenever a positive throat culture is reported in a well immunized community. This is borne out by Perkins in describing a hospital epidemic of 20 cases and 47 carriers. We quote "With the exception of the first 2 cases, each case and carrier gave a history of a prior exposure to a previously recognized hospital case or carrier."

In 1934, there were over 500 throat cultures taken in the city of Auburn without a single positive culture. The positive cultures found in 1934 were all from cases in the county and not in the city.

The large increase in number of positive cultures in 1935 and 1936 was due to the three cases and carrier found in the fall of 1935. All positive cultures in 1935 and 1936 were from these cases or contacts of these cases.

According to Dudley, as the incidence of diphtheria decreases, so will the incidence of those with a natural immunity and the more difficult it will be to build up an artificial immunity.

The report of a hospital epidemic by Perkins further bears this out. He reported 20 cases, 18 in hospital personnel. Of these 10 had had a previous negative Schick test. From this it would seem to us that—

1. Positive throat cultures for diphtheria are exceedingly rare in a well immunized community except from actual cases or form contacts with active cases of diphtheria.
2. Repeated Schick tests (probably once in 7 years) and repeated preventive inoculations are essential for the most effective immunization of a community against diphtheria.

At least we do not feel that once immune always immune in a well immunized community, and anyone so instructing the public would be misinforming them, at least in Auburn. Also, without follow up Schick tests, a false sense of security may be given to a parent.

With reference to colds. In a city where I once lived a certain school with a most cooperative principal was put on the alert to send home every child with the slighest cold or cough or other symptom of a communicable disease. The child was told to go home to bed, and if not better very shortly to call a doctor. In a similar school in a comparable section of the city, no particular campaign was put on that year but the best judgment of the teachers and principal allowed in the routine handling of these mild infections without the added stimulus of the health service insisting upon early instead of late exclusion for suspected communicable disease. At the end of the year in the first school there had been twice as many children absent as in the second school but there had been but half as many total days absences.

Let us insist upon the policy adopted in the first school. Let us also condemn the practice of giving attendance awards particularly in the early grades. Let us condemn the practice of comparing one room with another and one school with another in attendance.

Adult education is an important item. One commendable practice is to send home at the first of the year a letter to the parents telling them what steps to take when the child has a cold or a rash. At least make it clear to them that to prick the blisters of chickenpox, put merchurochrome on them and send the child to school is a useless procedure, since the school physician will discover their subterfuge. (We have had them do that repeatedly and not in the poorer sections of town). And let us not have the parents in face of a whooping-cough epidemic keep sending a child to school who has begun to cough at night and once in a while during the day with the statement "Oh, yes I knew he was coughing, but I thought you would send him home when his cough got bad enough." . . . or worse yet, "Gee! Doc, I am glad you sent him home. I have been trying to keep him home for a week, but he thought he had to go to school to get ready for regents." Adequate advance notice and information to parents will prevent these manifestations of parental dishonesty, ignorance, and incompetence.

When any child tells me he has a sore throat, I look at his throat, and then send him home even if I can see nothing wrong in the throat. However, he is told to come back the next morning unless he is much worse, and a second examination is given. If he has no fever, and the throat does not show any signs of inflammation, and he has no other signs of illness, he is given a permit for school, particularly if he is a known malingerer.

Scabies, impetigo, and pediculosis constitute a major health hazard in the schools, and come for the most part in the indigent and near indigent who as a rule will not consult any physician or clinic for care. After consultation with the local medical organization, the school physician might well prescribe for these diseases in the near indigent and indigent. In most communities,

the teachers, principal, nurse, and school physician know the families well enough to know which are unable to afford a physician or will not go to a clinic.

A small area of impetigo might be covered with ammoniated mercury, or some other approved medication, and bandaged, and the child kept in school. Otherwise all the above diseases should be excluded until cured.

One clever nurse in the southern part of the state is handling nits as follows when the girls come in and say: "We picked off all we could see at home; the light isn't good there."

"All right, Mary, you and Alice come up to my office. We have good light there. We will have a picking party. You can stand by the window and pick the nits from Alice's head, and then Alice will pick the nits from your head. We will pull the shades on the glass door, and no one will see you. When you are all through I will look at your heads."

When the families will not clean up their children, call this to the attention of the judge of the children's court, or the properly qualified judge in your community. It is surprising how far the gossip travels when a hearing has been held. Such an event, once or twice a year in any community, has a widespread and lasting beneficial result.

In conclusion, let me state that communicable disease control in the schools is an adult education problem. The community and the whole school personnel must cooperate. The teacher is the first line of defense, and she should be constantly on the alert to pick up the first signs of illness and to report any sudden increase in absences, except on circus day. In scarlet fever, the teacher is particularly important, because a child with a slight sore throat may not have a rash and the first sign is peeling hands picked up in the morning health inspection by the classroom teacher. The doctor who has not missed such mild cases of scarlet fever, has not seen many cases or has a poor memory.

Again, for effective control of communicable disease among school children, the cooperation of the whole community and particularly the whole school personnel is essential.

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Dental Conditions.— A recent dental survey of 46,000 school children in San Francisco reveals many startling facts, among them the following: At present in San Francisco before the ten-year-age group is reached, a large percentage of children have had no dental care. Even after the ten-year-age group is passed, less than 60 percent of the children have had dental care. Approximately 80 percent of the ten to twelve-year-old children have dental defects. Nearly one-third of the first permanent molars are carious. The findings of this survey, a WPA project, suggest the need for such a survey in other cities and for a more adequate dental program throughout the nation. —Journal, N. E. A., December 1937, page 312.

COMMUNICABLE DISEASE CONTROL

JOHN E. BURKE, M.D.

Assistant Superintendent in charge of Health and Physical Education, Public Schools, Schenectady, N. Y.

Communicable disease in any community makes up a large part of the community health officer's work. The health officer is the official to which the community looks for guidance and direction as to procedure when communicable disease is in question.

Since that part of society which makes up the school population is the group that experiences much communicable disease, it becomes necessary for school administrators and the teaching staff to participate in trying to meet this problem so that the best interests of all concerned may be served.

In Schenectady, the classroom inspections made by all teachers on the opening of school sessions is the school's first and not least important effort in meeting the problem. Teachers are instructed to send at once to the school nurse students who deviate in any way or in any degree from their usual appearance and behavior. Our school nurses are instructed to dismiss, giving reason for dismissal, all children who are ill in any degree. Nurses communicate with the municipal health department at once, if they are suspicious of communicable disease. If they are not suspicious of communicable disease, the student is contacted in a day or two so that the nurse may understand what the character of illness is that is keeping the individual out of school. A printed card signed by the nurse always accompanies the student home. This card urges the parent to take such steps to look after his or her child as seem indicated. All children absent from our school system must return through the nurse's office.

An understanding between the municipal health department and the school health workers prevails wherein duplication of effort is avoided. Telephonic exchange of information between municipal health department nurses and school nurses is a daily procedure. In addition to the guidance program with reference to communicable disease carried on in the schools, the district nurses from the municipal health department supply literature, and by means of numerous calls give information with reference to the individual problem at hand.

Nurses do not diagnose disease. They do, however, report that they are suspicious of thus and so, and the health department's physicians confirm or deny these suspicions. Our school nurses are very keen, since it is their daily work to spot these communicable diseases, and we urge them to report suspicions freely since we believe it preferable to have all these cases investigated.

A splendid working relationship exists between the municipal department of health and the school health workers in Schenectady. We feel that both departments are on the alert at all times to be sure that communicable disease is isolated for the protection of all concerned.

REPORT OF THE MEETING OF THE TUBERCULOSIS COMMITTEE OF THE AMERICAN ASSOCIATION OF SCHOOL PHYSICIANS HELD AT MILWAUKEE, WISCONSIN, ON JUNE 2, 1937

Present: Doctors H. A. Burns, H. D. Lees, Esmond R. Long, J. B. Novak, Wm. J. Ryan, and J. A. Myers

The Committee discussed the problem of tuberculosis among teachers and came to the conclusion that an article should be prepared on this subject and signed by the entire Committee. This article should include all available information and references so as to bring together as much as possible of what is already known on this subject. It was suggested that such an article be submitted for publication in the American Journal of Education or some medical journal, and if the latter is used a large number of reprints be distributed. This article should be ready for publication during the winter.

The Committee voted to continue compiling data on tuberculin testing of school children throughout the nation. All members feel deeply indebted to the secretaries of various state tuberculosis associations for their fine assistance and cooperation in this work during the past. It was decided that a map of the United States, showing incidence of infection, should be prepared from time to time, as was done from the 1935 data and published in the Journal of School Health in January and February 1937. It was also agreed that the X-ray findings on the chests of positive reactors should be included in the next report. All examinations of school personnel were also to be included. A questionnaire has been prepared and will be sent to the secretaries of the state tuberculosis associations in the near future. The next report will include only the 1936 data.

Since the meeting of the Committee, President Sundwall has kindly appointed Miss Jessamine Whitney, statistician of the National Tuberculosis Association, to membership. Miss Whitney has prepared a special report form which will make it possible to treat the data statistically. In this manner more valuable information should be obtained than in the past. However, it probably will not be possible to use this special form until we compile the 1938 data.

The Committee decided that it would be worth while to determine changes in the infection attack rate among children of certain sections of the country over a five-year period. For example, it was proposed that a few of the state secretaries representing various parts of the nation be asked to set up studies which would include testing in a given area of all the first grade children each year for five years. This should determine whether the environment of small children is becoming safer from year to year. While five years is a short time for such a study, it was agreed that the time might later be extended.

It was agreed by the Committee that there should be a representative in each state who would sponsor and supervise the program of tuberculosis con-

trol and stimulate the various state school systems to introduce or increase special activities.

The main thought of the Committee on Tuberculosis is to find in the school personnel and among the children all open cases of tuberculosis, and recommend treatment or isolation so as to prevent its spread. The Committee is also desirous of having the source of infection of the positive tuberculin reactors traced whenever possible, so as to prevent further spread from this source; in short, it is our desire to aid in the creation of an environment throughout the schools of this country which is free from tubercle bacilli.

As a result of reports of the rather vast amount of work which has now been completed, the committee is inclined to feel that the most fruitless age for uncovering significant pulmonary tuberculous lesions in children, is between six and twelve years and that, especially where personnel and funds are curtailed, the investigation should be limited to the senior high school students, of course including the other years from the older down in accordance with the feasibility of the work in a given community.

This report has been read and approved by all members of the Committee.

Signed: Wm. P. Brown
Hugh A. Browne
H. A. Burns
H. D. Lees
Esmond R. Long
J. B. Novak
Wm. J. Ryan
Jessamine Whitney
J. A. Myers, *Chairman*

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Kentucky's Plan for Public Health Education.— "Since approximately 70 per cent of all public health work has its basis in education, it becomes imperative that more time and thought be given to a well-organized plan of public health education." Thus reads the opening sentence of this discussion of Kentucky's plan for public health education. To meet this need for emphasis on the educational aspects of health work, Kentucky's State Health Commissioner has appointed three committees from the staff members of the State Department of Health. These consist of a "Committee on Continued Learning by State Staff," a "Committee on Continued Learning by County Unit Personnel" and a "Committee on Continued Learning by the Allied Groups." The functions of each of the committees are outlined by the authors.

The hope is expressed that with the state plan as a nucleus, each of the cooperating county and city health departments will be guided to work out public health education plans, to meet the health needs of their communities. —A. T. McCormack, M.D., and Reba Harris, M.A., Public Health Reports, October 29, 1937. Pages 1530-5.—Abstracted by Earl E. Kleinschmidt, M.D., D.P.H.

EDITORIALS

"What mean ye, fellow-citizens of Athens, that ye turn every stone to scrape wealth together, and take so little care of your children, to whom one day you must relinquish it all?"—Socrates.

It would appear from recent developments in the field of School Health Education that the right of persons trained in the health-medical sciences to engage in health educational activities in the schools is again being challenged. There is nothing especially new in this situation; it merely brings to our attention again a question which has been subject to debate for a considerable period of time.

Both within the membership of the School Health Association and without are individuals who believe that the physician, dentist, and nurse should confine their activities solely to purely public health problems, leaving matters of health education to those primarily trained in Education. They would have the health officer administer a tuberculin test, the dentist fill a tooth, and the nurse apply first aid, without permitting them the greater opportunity of enriching the experiences of children further by participation in strictly educational activities. In brief, these individuals would utilize the health worker only insofar as his or her technical services are required.

Among those with this opinion are those who, themselves, lack proper scientific qualifications to make them a health worker, "tin doctors" and inspired reformers who are desirous of justifying a place for themselves in this new movement; on the other hand there are those members of the health-medical professions who, under the influence of clever propaganda from pseudo-health educators, are willing to sell the birthright of their profession—the right to formulate principles of health education—in order to secure the cooperation of their confreres in the schools.

That teaching ability is necessary for every one engaged in school health work cannot be gainsaid. This skill is necessary for the physician conducting health examinations as well as for the teacher in the classroom. Particularly is this true if we are to follow the injunction of the White House Conference to make all school health services fundamentally educational in purpose and character.

But for soundness of subject matter, for authoritative facts, and for convictions as to what needs to be taught, who has a greater right to speak with authority regarding health matters than the public health trained physician, dentist, or nurse? People need to learn the importance of looking to the medical and public health professions as the authorities and sources of guidance in matters of medical importance as they apply to health education. There has been too much of the pseudo-scientific in health teaching in schools as well as elsewhere. This has been not so much because of intention as by reason of the deluge of health quackery to which the average school person is subjected through every avenue of communication possible. That teachers are no exception in this regard is indicated by the findings of Rhoton in his

study of "Health Misconceptions of Prospective Teachers." In his conclusions he states, "On the basis of the items selected for the test used, the results shown here would seem to indicate that an alarming amount of misconception, or lack of information, about health matters, is carried into the class room by our beginning teachers. . . . Formal education has failed in a marked degree to remove health misconceptions from the beliefs of the individuals here studied."—Abstract from editorial by Earl E. Kleinschmidt, M.D., Bulletin of the Michigan School Health Association.

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"It is better to work with the construction crew, than with the wrecking crew."

The leading article in this issue of the Journal of School Health is a fine clear exposition of the constructive—largely because it is cooperative—effort that is going on in Hawaii for the physical, mental, and social betterment of the school children of the Island.

This Health Program is a *program*. Under the guidance and apparently largely financed by the funds of the Department of Public Instruction, it brings into active cooperation the Territorial Board of Health, a Bureau of the department basicly concerned with public welfare, the Hawaiian Tuberculosis Association, the Strong Foundation, the Palama Settlement, the Y. M. C. A., the Y. W. C. A., the Recreation Commission, the medical and dental societies, private physicians and dentists, and various of the plantations.

While it is unwise to be too enthusiastic without actually seeing, for one's self, the wheels go around, this effort seems to be producing splendid results. It certainly is trying to mass all the educational skills, health science, and social and professional groups behind a *plan*.

Contrast this with our own Federal set up, where we find, to be sure, the able scientists of the U. S. Public Health Service busy with research, studies, and programs in the health field, but a number of other bureaus and departments plunging their thumbs into the health field hoping to pull out a financial plum for the advancement of the particular "ism" in which they are interested.

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What price health? On page 24 of this issue is a short account of the control of diphtheria and scarlet fever in two schools in Illinois. While it is true that the institutional residential school has a control over its pupils that the public school does not have, nevertheless the control of these diseases during the school age might be much more adequate than it is.

We fail in this particular for several reasons: lack of a proper plan; lack of persistence; fear of public opposition; insufficient funds which means (among other things) an inadequate staff. More adequate funds for prevention means a potentially huge saving in the care of the sick, both in the home and in the public or private hospital.

As Socrates suggests, "What are we saving it for."

ABSTRACTS

Calcium and Phosphorus.— A body of the American Dental Association analogous to the A. M. A. Council on Pharmacy and Chemistry, has reviewed the functions, uses and actions of calcium in human physiology and nutrition. This Council on Dental Therapeutics points out that the dentist is primarily interested in the following special aspects of calcium metabolism: 1. Are disorders of the teeth, notably dental caries, related to the dietary intake of calcium (and phosphorus)? 2. Is the development of sound teeth in utero dependent on a high intake of calcium during pregnancy? 3. Is there a calcium drain on the mother during pregnancy and lactation, and, if so, is this drain related to the carious process?

The interest of obstetricians, pediatricians, and general practitioners in these questions is no less than that of dentists, for they are frequently asked similar questions. The dental council pointed out that there is no direct positive evidence from either the laboratory or the clinic that the addition of calcium and phosphorus compounds to an otherwise ample diet influences in any definite manner the incidence of dental decay in the child or in the adult, or that it promotes the development of noncarious teeth in utero, in infancy and during growth or in the adult; nor is there any sound evidence that a calcium drain during pregnancy and lactation is lessened by the addition of these compounds when the diet is well balanced.

The late Alfred F. Hess concluded from a roentgenographic examination and chemical study of the teeth of infants from birth onward that: 1. Calcification must be regarded as a postnatal phenomenon. 2. At birth, only 0.5 Gm. of tricalcium phosphate has been laid down in the teeth of both jaws. 3. As far as the teeth of the infant are concerned, it cannot be of great moment whether throughout pregnancy a woman has a diet high in calcium and phosphorus. She is provided with a bounteous storehouse of these substances in the bony skeleton, from which, with the greatest facility and without the slightest harm to the prospective mother, the 0.5 Gm. required for the denture of the fetus can be withdrawn. 4. The postnatal period is of great significance as regards calcium and phosphorous requirements of the teeth. 5. Little is gained, so far as fetal dentition is concerned, by increasing the calcium and phosphorus intake of the expectant mother.

Macy and her collaborators adduced evidence to show that a large intake of vitamin D during the period of pregnancy was of greater importance than added supplies of calcium and phosphorus to a diet.

While there is some dispute as to the exact importance of vitamin D or factors simulating it, the Council on Dental Therapeutics has resolved the problem for dentists by pointing out that cod liver oil has a favorable influence on the absorption and subsequent deposition of calcium and phosphorus in the bones and in the teeth. Consequently cod liver oil is considered among the medicinal foods which, because of their vitamin content, apparently have a beneficial effect on the development of teeth and aid in prophylaxis against

dental caries. Accordingly, it lists in its book of accepted dental remedies several brands of cod liver oil compounds related to it.

Because of the assertions made by certain promoters of so-called organically combined calcium or phosphorus compounds, the Council reminded its readers of the statement of the late Lafayette B. Mendel, made years ago, that the only debated question of superiority of calcium and phosphorus and iron when finished in some organic form or combination no longer excites interest. This is as real today as when it was first said.

After a careful review of the critical evidence available, the Council concluded that:

1. All the calcium and phosphorus requirements for average needs, including pregnancy and growth, may be suitably obtained by means of an adequate diet containing not only calcium and phosphorus compounds but also other necessary factors, such as caloric, protein, and other mineral and vitamin requirements.

2. There is no carefully controlled evidence that the addition of calcium and phosphorus compounds, whether inorganic or organic, promote retention of these elements and hence freedom from dental diseases, except in known cases of deficiency. Where this occurs, milk serves as an excellent source of calcium and phosphorus in a readily assimilable form.

3. There is no evidence that the ingestion of combinations of calcium and phosphorus in addition to diets adequate in these elements promotes the development of sound teeth in the human fetus. The calcification of the teeth is a postnatal event.

The Council emphasized the following statements: "The reparative treatment of dental caries, based on the principle of local susceptibility, depending on dental conformation and natural hygiene, is invariably successful when properly practiced, in that dental caries does not recur under or at the margins of properly treated and filled cavities. Hygienic measures as now applied are probably of definite but limited value in combating caries. Empirical prophylaxis by regulation of the diet of children is distinctly effective, and, at least until the problem becomes more fully understood, deserves more universal adoption." The Journal of the American Medical Association, May 8, 1937, page 1655.

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After-care of Poliomyelitis.—*To the Editor*:—I have been unable to find specific and detailed instructions in carrying out the care of paralysis following the acute attack of poliomyelitis. I will appreciate your sending me detailed information as to the best procedures to follow in a case of deltoid paralysis and paralysis of the flexor muscles of the foot. I should like information on these points: How to use the electric stimulation and galvanic currents in the muscle care; how often this should be done; how much active and passive motion is indicated; whether the arm should be kept elevated or allowed to remain in a sling; advisability of swimming and of how much

benefit it is. Any further instructions you may have as to the care of these muscles will be appreciated. M.D., Texas. *Answer*—The after-care of paralysis resulting from acute poliomyelitis requires prolonged and intelligent supervision based on an accurate knowledge of the muscles involved. In the past, many diverse systems have been employed. Opinion now is more crystallized, variations being introduced only to favor paralyzed muscles. There have been several articles by competent authors in the past few years in the American Journal of Physiotherapy on the management in the recovery stage of this disease.—The Journal of the American Medical Association, August 28, 1937, page 729.

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Notable Health Records.—At the Mooseheart School near Aurora, where the enrollment averages about 1,500, there has not been a case of diphtheria among the pupils since 1927, and only one case since 1920. There has not been a case of scarlet fever since 1931, and only three since 1926.

At the Soldiers' and Sailors' Children's School at Normal, with an enrollment of more than 700, there has not been a case of diphtheria since 1924 among pupils who had completed the admission routine, and no case of scarlet fever since 1929 and only one case since 1925. There were three cases of diphtheria in 1934 among children who had just reached the school and were still in the isolation cottage, a routine precaution taken to prevent the introduction of communicable ills in the school population.

At both Mooseheart and the School at Normal, all children are inoculated against diphtheria and smallpox upon arrival. The practice of inoculating against diphtheria began at Mooseheart in 1919 and at Normal in 1924. Each child at both schools is tested upon arrival for scarlet fever and, if found susceptible, inoculated against that disease. This program against scarlet fever was started at Normal in 1925 and at Mooseheart in 1926. There has been no case of scarlet fever in any child inoculated against the disease at Mooseheart. The three children who had scarlet fever since 1926 were for one reason or another not immunized.

Plenty of opportunities have arisen for the introduction of diphtheria and scarlet fever among the pupils at both schools. Scarlet fever has been widely prevalent at different times in the communities in which the schools are located. On one occasion an employee at Mooseheart got diphtheria and this disease also has appeared in the communities.—Illinois Health Messenger, November 15, 1937, page 142.

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Health Education of the Adolescent.—After an interesting discussion of three basic attitudes towards life, one of which the individual is likely to assume, the writer concludes that the teaching of social adjustment is important in a program of health education activities. Adolescence is considered to be an age period requiring particular emphasis in this respect.

Materials, methods, and motivation receive their share of consideration by the author, in his discussion of several main problems which should be carried to and clarified for the adolescent. The desirability for education along these lines is represented in the need for mental hygiene, personal hygine, i.e. proper care of the physical mechanism and sex education for this age group. According to the writer, sex education should have two purposes (1) "to impart accurate information about sex as a part of the process of normal living;" and (2) "to establishe attitudes which will guide the boy or girl in activities with the opposite sex."—W. L. Halverson, M.D., Weekly Bulletin. California State Department of Public Health, October 23, 1937, Pages 153-5.—Abstracted by Earl E. Kleinschmidt, M.D., D.P.H.

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Education in Social Hygiene.—"The prevention of veneral disease is dependent upon practical measures in social hygiene as developed through legal, social and educational forces," writes W. M. Dickie, Director of Public Health, California State Department of Public Health. Local public opinion may frequently play its part in the effectiveness of law enforcement. Social welfare may aid in the advancement of social hygiene through the establishment of public recreational facilities, parks, playgrounds, community activities for public entertainment, and other such means. But undoubtedly the most effective factor in the prevention of the venereal diseases according to this writer is education in social hygiene for both child and parent.

In his consideration of the subject the author writes, "Education of the child in the home by the parent is the nucleus of all instruction in social hygiene." Where sex education is performed in the school it must be done subjectively, not objectively. Graded instruction must be woven into many subjects throughout the educational career of the child. Teachers need preparation for this task. However, parents need instruction for the role that they are to fill also. Moreover, in order to provide for this the writer regards parent education as offering a real opportunity for the public school system to provide an essential part in the program for the promotion of social hygiene. —Walter M. Dickie, M.D., Weekly Bulletin. California State Department of Public Health, October 30, 1937, Pages 157-9.—Abstracted by Earl E. Kleinschmidt, M.D., D.P.H.

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The Epileptic School Child.—The facts of the understanding and treatment of the epileptic school child were obtained from a questionnaire sent to nineteen school physicians of representative cities and villages in New York State. The digestion of this material lends significance to the following topics:

1. Although the incidence of epileptic seizures in school children are relatively small (seven per 10,000 or .07%) yet from the standpoint of school management this type of child presents a most serious type of problem. There seems to be some indication of a diminution in the number of epileptic school

children during the past five years. This may point to a better understanding and handling of the contributory factors making for or against convulsive states, such as cranial birth injuries, lues, encephalitis, dietary indiscretions, foci of infection, early diagnosis and treatment (medical, psychological, educational, and environmental).

2. The chief criteria for exclusion and exemption from school are severe and frequent seizures, inability of the child to profit by regular school attendance because of low mentality, or behavior problems so upsetting that retention in school becomes impossible. There is a tendency to exclude every child with a seizure until adequate diagnosis can be made. The fact that only twenty-five to fifty per cent of epileptics are excluded from public school indicates the value of intelligent understanding and the shaping of school attitudes and facilities to serve the needs of this type of handicapped child. A more hopeful outlook for happily and effectively retaining him in the community from the standpoint of social-educational growth is now entertained than formerly. Nevertheless, a long term comparative study of the relative advantages and results of early institutionalization versus home-school-community adjustment is needed.

3. The diagnostic criteria for epilepsy are periods of loss of consciousness, jerking movements, frothing at the mouth, and other features of the grand mal type. The vacant stare of "absences" of petit mal followed by amnesia for the attack are characteristic. Differentiation of epilepsy from hysteria, mental retardation, and organic conditions such as central nervous system lues, brain tumor, post-traumatic injuries, and postencephalitic conditions must be considered.

4. Cooperation of the school physician, public health nurse, family physician, parents, hospital and child guidance clinic, as well as psychiatrist or neurologist, is necessary in order that continued care and supervision of the child may be adequate.

5. The school is not concerned with treatment, and usually diagnosis is referred to the family physician who confirms this by consultation with specialist, hospital, clinic, or other physician.

6. The educational treatment in the case of the epileptic child of average intelligence is to retain him in the normal age-grade grouping by individualizing his program as much as may be indicated. Of particular moment is the sympathetic and helpful understanding and handling of the child by the teacher and pupils. Home teaching is arranged for those who have too many or too severe seizures to permit attendance at public school, and who have the intelligence (at least 60 I. Q.) to profit by such instruction. Allowances must be made for learning process difficulties such as inattention, confusion, and entanglement of details in order that he may not be further confused and excited, since this many give rise to seizures. He must not be classed with the child who is mentally retarded, although a combination of this and epilepsy is quite common.

7. The tendency is to retain the child in a public school or in the community with home teaching as long as possible. Indications for institutionalization are frequent and severe seizures; inadequate home treatment, guidance, or supervision; and the superior advantages (medical and educational) of institutions caring for epileptics over those agencies in the local community.

8. Comments are made as to the understanding and treatment of the child, particularly with respect to the educational angle as it touches upon the work of the school physician in the light of home-school-community relationships. The Epileptic School Child. How may we Understand and Treat Him? Frederick L. Patry, M.D., Albany. New York State Journal of Medicine, September 15, 1937, page 1557.

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Word Blindness.— *To the Editor*:—Please give me some information about the latest treatment in word blindness. B. M. Howley, M.D., New Brunswick, N. J.

Answer—The latest treatment in word blindness aims at overcoming the difficulties created by the perceptual peculiarities of the patient.* In learning to read, emphasis is placed in auditory and kinesthetic types of stimulation. Phonetic rather than visual methods are used in the teaching of reading with such children. Kinesthetic methods involve the tracing of letters, sometimes the use of letters cut out of wood so that actual contact can be used in becoming familiar with shapes and forms of letters. Considerable effort at times must be expended in overcoming the tendency to reverse images. The devices that aid the child in following the printed material in the proper direction are used. For some children, when disturbances in the eye movements can be demonstrated, such mechanical devices as the mentronoscope are used to improve ocular coordination and to speed up the rate of reading. Often the psychologic problems produced by the disability are more difficult to overcome than the mechanical effect of the disability. The discouragement and anxiety that children develop on account of their inability to read may result in a tremendous resistance to learning to read at all. This may have to be overcome before progress can be made in teaching them the mechanics of reading. *See "Children Who Cannot Read," by Marian Monroe, University of Chicago Press, 1932. The Journal of the American Medical Association, July 24, 1937, Page 298.

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NOTES

Cod Liver Oil.— Some authorities recommend that cod liver oil be given in the morning and at bedtime when the stomach is empty, while others prefer to give it after meals in order not to retard gastric secretion. If the mother will place the very young baby on her lap and hold the child's mouth open by gently pressing the cheeks together between her thumb and fingers while she administers the oil, all of it will be taken. The infant soon becomes accustomed to taking the oil without having its mouth held open. It is most

important that the mother administer the oil in a matter-of-fact manner, without apology or expression of sympathy.

If given cold, cod liver oil has little taste, for the cold tends to paralyze momentarily the gustatory nerves. As any "taste" is largely a metallic one from the silver or silverplated spoon (particularly if the plating is worn), a glass spoon has an advantage.

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Dental Program.—A program aimed at extending to all rural school children in Illinois the opportunity of a dental examination has been started by the State Department of Public Health. Four teams, each consisting of a dentist and a nurse, have been organized for this purpose. The teeth of about 10,000 children have been examined since the opening of schools in the fall and it is anticipated that all rural children in a dozen or more counties will have been examined before the end of the school year.

An educational program is undertaken in addition to the examinations in every community visited. The importance of a proper diet in the construction and preservation of teeth, as well as of good dental care is emphasized in lectures and by means of exhibits, posters and motion pictures. Parents are always invited to be present at the time of the examination of the children and special public meetings are arranged for the educational features.

It is not unusual upon first examination to find over three-fourths of the children with decayed teeth.—Illinois Health Messenger, Dec. 15, 1937, page 152.

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Age and Scarlet Fever.—A study of the age distribution of scarlet fever in down-State Illinois last year indicates that children from five to ten years of age are more likely than any others to get the disease and that the six-year olds suffer the highest attack rate of all. This suggests that the close association of children in the lower grades of schood brings them for the first time into general and repeated exposure to infection and becomes an important factor in spreading the disease.

Only 14 per cent of all cases of scarlet fever reported in the down-State area last year was among children of preschool age, while nearly one-fourth of all cases (3492 out of 14,538 or 23%) was among the six, seven and eight year old children. A gradual decline in frequency of attack takes place among children after the sixth year of life although illness from scarlet fever occurs throughout the life span.

Scarlet fever is now widely prevalent in the State, reported cases ranging from 400 to 500 weekly.—Illinois Health Messenger, Dec. 15, 1937, page 152.

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Tuberculosis.— Tuberculosis is slowly but surely losing ground in upstate New York. In 1935 the resident death rate from this disease was 43.8 per 100,000 population; in 1936 it was 43.1; and for the first ten months of this year it was 42.7. It is likely that when final figures for the entire year are available a still further reduction may be evident.

Unfortunately this downward trend is not being experienced in all sections of the country. Many states and several large cities have reported increases in tuberculosis death rates. This rise in the prevalence of the disease in other parts of the country should serve as a warning of what may happen in uptate New York unless still more effective case-finding and control programs are carried on in every part of the State.—Health News, Dec. 13, 1937, page 201.

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Rural Dental Hygiene.— A public health service that is much needed in rural areas throughout the State and that has been stamped with the wholehearted approval of school authorities and teachers as well as parents is being demonstrated in Oneida county.

In connection with its state aid nursing service, the county has employed a whole-time dental hygienist to supplement the work done by the county dentist in rural schools. The hygienist examines and cleans the teeth of the children, notes those in need of dental service, and makes appointments through the public health nurses for treatment by the dentist of those children whose parents are unable to pay for the services of a private dentist. Lay committees and interested agencies arrange for transportation of these children to the county dental clinic at Broadacres. The work is educational as well as practical. As the children's teeth are cleaned, the value of oral hygiene is demonstrated, and the importance of proper diet as an essential of dental health explained.

The need for full-time service of this kind is evident from the report of the dental hygienist for October 18 - November 5. During this period, a total of twenty-one district schools were visited or represented, 183 prophylactic treatments were given, and 141 children were found to need dental attention, including eighty-three urgent cases.

District superintendents of schools in the county are unanimous in their approval of this service. Teachers are delighted with the expansion of the school health program, parents are showing their interest by having defects corrected as soon as possible, and children are taking pride in keeping their teeth clean. As a result of the favorable reception given this work, the Oneida County Board of Supervisors has included in the budget for 1937-38 an appropriation for a full-time dental hygienist.—Health News, State Dept. of Health, N. Y., November 29, 1937, page 195.

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Your Child and the School.—Under this caption a series of articles by Allen G. Ireland, M.D., a member of the Governing Council of the American School Health Association, is being published as a syndicate news feature in numerous publications by the Health News Service Incorporated, 22 East 40th Street, New York City. These articles are timely, scientific, and most interesting.

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REVIEWS

The Physical Growth of Girls.—A Study of the Rhythm of Physical Growth From Anthropometric Measurements on Girls Between Birth

and Eighteen Years.—*By Bernice Boynton, University of Iowa Studies in Child Welfare, Vol. XII, No.* 4.

This report presents for girls data that is similar and comparable to the material reported for boys by Meredith in "The Rhythm of Physical Growth." The study is based on a total of 55,886 measurements of 1,241 girls covering the age range of birth to eighteen years. The measurements represent seriatim observations on: stature, sitting height, bi-deltoid diameter, maximum head length, maximum head breadth, transverse diameter of thorax, thoracic circumference, bicondylar diameter of left humerus, bicondylar diameter of left femur, body weight, breathing capacity, skin and subcutaneous tissue at upperarm front, skin and subtaneous tissue at upperarm back, skin and subcutaneous tissue at thorax front, skin and subcutaneous tissue at thorax back, skin and subcutaneous tissue at iliac crest, girth of upperarm, girth of forearm, girth of thigh, girth of calf and bi-iliac diameter. All of these measurements with the exception of the last six are identical with those reported by Meredith.

The analysis consists in the presentation of means, standard deviations, coefficients of variation, and ranges by age group, followed by tables on the percentage rate of change in the measurements at each age. By a comparison with Meredith's data certain sex differences in gross measurements as well as rate of growth are shown.

Although the data are seriatim observations little use is made of this fact, for the statistical treatment is similar to that ordinarily given to cross-section measurements of children. The results yield normative figures for the several age groups and for the type of population included in the study.

HAROLD H. MITCHELL, M.D.

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Dental Health in Elementary Schools.— *Massachusetts Department of Public Heatlh, pp.* 35.

In this pamphlet, the Massachusetts Department of Public Health, realizing the gravity of faulty teeth conditions of elementary school children proposes an attack on the problem. Recommending an annual dental examination, and urging an examination at least of those in the first, third, sixth, and twelfth grades, it bases its program on child, teacher, and parent dental education, using both the dentist and dental hygienist as a means.

It has a section on the structure and growth of the teeth and the necessity and measures for their preservation. It presents several teaching units, and emphasizes the need for integration with established subjects in the elementary grade. It concludes with a list of references to texts, booklets, charts and posters, films, and teaching models.

This is a worthwhile effort to help the bewildered and sadly uninformed teacher to get and use authentic information in this field of health education.

CHARLES H. KEENE, M.D.